

AMENDMENT TO THE CLAIMS

1-3. (Canceled)

4. (Currently amended) The reflector according to Claim 3, A reflector having a concave/convex shape in a surface thereof, characterized in that

at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and the concave/convex shape of an arbitrary straight-line cross section is irregular,

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged in a substantially spiral shape,

including the concave portions or the convex portions in which a central angle made between a **n**-th concave/convex portion and a **(n + 1)**-th concave/convex portion is a multiple of 137.5 degrees when the concave portions or the convex portions are numbered using **n** according to a distance from a center of the spiral.

5. (Currently amended) The reflector according to Claim 3, A reflector having a concave/convex shape in a surface thereof, characterized in that

at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and the concave/convex shape of an arbitrary straight-line cross section is irregular,

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged in a substantially spiral shape,

including the concave portions or the convex portions in which a distance from a center of the spiral to a concave/convex portion is proportional to a square root of n when the concave portions or the convex portions are numbered using n according to the distance from the center of the spiral.

6-8. (Canceled)

9. (Currently amended) ~~The reflector according to Claim 1, A reflector having a concave/convex shape in a surface thereof, characterized in that~~

at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and the concave/convex shape of an arbitrary straight-line cross section is irregular,

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged so as to have a positional relationship similar to a plurality of points on an arbitrary two-dimensional coordinate system obtained when a radius of a coordinate from an origin is a square root of n as a natural number and a phase angle is 137.5 degrees \times n on the arbitrary two-dimensional coordinate system.

10-13. (Canceled)

14. (Currently Amended) ~~The reflector according to Claim 13, A reflector having a concave/convex shape in a surface thereof, characterized in that~~

at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and concave/convex shapes of arbitrary parallel straight-line cross sections do not have the same regularity,

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged in a substantially spiral shape,

including the concave portions or the convex portions in which a central angle made between a **n**-th concave/convex portion and a **(n + 1)**-th concave/convex portion is a multiple of 137.5 degrees when the concave portions or the convex portions are numbered using **n** according to a distance from a center of the spiral.

15. (Currently amended) ~~The reflector according to Claim 13, A reflector having a concave/convex shape in a surface thereof, characterized in that~~

at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and concave/convex shapes of arbitrary parallel straight-line cross sections do not have the same regularity,

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged in a substantially spiral shape,

including the concave portions or the convex portions in which a distance from a center of the spiral to a concave/convex portion is proportional to a square root of **n** when the concave

portions or the convex portion are numbered using **n** according to the distance from the center of the spiral.

16-18. (Canceled)

19. (Currently amended) ~~The reflector according to Claim 2, A reflector having a concave/convex shape in a surface thereof, characterized in that at least part of concave portions or convex portions of the concave/convex shape are arranged regularly according to a predetermined rule so as to have a reproducible reflection characteristic, and concave/convex shapes of arbitrary parallel straight-line cross sections do not have the same regularity,~~

wherein the at least part of the concave portions or the convex portions of the concave/convex shape are arranged so as to have positional relationship similar to a plurality of points on an arbitrary two-dimensional coordinate system obtained when a radius of a coordinate from an origin is a square root of **n** as a natural number and a phase angle is 137.5 degrees \times **n** on the arbitrary two-dimensional coordinate system.

20-39. (Canceled)

40. (Currently amended) ~~The optical member according to Claim 39, An optical member characterized in that~~

~~an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local~~

minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on an arbitrary straight line in the plane are arranged irregularly,

wherein at least part of the optical action centers may be arranged in a substantially spiral shape,

including the optical action centers in which a central angle made between a **n-th** optical action center and a **(n + 1)-th** optical action center is a multiple of 137.5 degrees when the optical action centers are numbered using **n** according to a distance from a center of the spiral.

41. (Currently amended) ~~The optical member according to Claim 39, An optical member characterized in that~~

an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on an arbitrary straight line in the plane are arranged irregularly,

wherein at least part of the optical action centers may be arranged in a substantially spiral shape,

including the optical action centers in which a distance from a center of the spiral to an optical action center is proportional to a square root of **n** when the optical action centers are numbered using **n** according to the distance from the center of the spiral.

42-44. (Canceled)

45. (Currently amended) ~~The optical member according to Claim 36, An optical member characterized in that~~

an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on an arbitrary straight line in the plane are arranged irregularly,

wherein at least part of the optical action centers are arranged so as to have positional relationship similar to a plurality of points on an arbitrary two-dimensional coordinate system obtained when a radius of a coordinate from an origin is a square root of n as a natural number and a phase angle is 137.5 degrees \times n on the arbitrary two-dimensional coordinate system.

46-52. (Canceled)

53. (Currently amended) ~~The optical member according to Claim 52, An optical member characterized in that~~

an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on arbitrary parallel straight lines in the plane do not have the same regularity,

wherein at least part of the optical action centers are arranged in a substantially spiral shape.

including the optical action centers in which a central angle made between a **n-th** optical action center and a **(n + 1)-th** optical action center is a multiple of 137.5 degrees when the optical action centers are numbered using **n** according to a distance from a center of the spiral.

54. (Currently amended) ~~The optical member according to Claim 52, An optical member characterized in that~~

an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on arbitrary parallel straight lines in the plane do not have the same regularity,

wherein at least part of the optical action centers are arranged in a substantially spiral shape.

including the optical action centers in which a distance from a center of the spiral to an optical action center is proportional to a square root of **n** when the optical action centers are numbered using **n** according to the distance from the center of the spiral.

55-57. (Canceled)

58. (Currently amended) ~~The optical member according to Claim 37, An optical member characterized in that~~

an optical characteristic in an observation point direction varies in a plane, at least part of optical action centers at which the optical characteristic has a local maximum value or a local minimum value are arranged in the plane regularly according to a predetermined rule so as to have a reproducible characteristic, and the optical action centers on arbitrary parallel straight lines in the plane do not have the same regularity,

wherein at least part of the optical action centers are arranged so as to have positional relationship similar to a plurality of points on an arbitrary two-dimensional coordinate system obtained when a radius of a coordinate from an origin is a square root of n as a natural number and a phase angle is 137.5 degrees \times n on the arbitrary two-dimensional coordinate system.

59-84. (Canceled)